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STUDY OF THE UTILIZATION OF EREP DATA FROM THE WABASH RIVER BASIN

Project # SR397

Contract #NAS 9-13301

Skylab/EREP Monthly Report for January 1975

Principal Investigations Management Office

Lyndon B. Johnson Space Center

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Submitted By

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Study of the Utilization of EREP Data from the Wabash River Basin

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Activities during the subject reporting period were concerned with analysis of the SL/4 - S192 data and preliminary analysis of the filtered SL/2 S192 data.

(A) Overall Status

The second attempt at reprocessing the SL/2 was received in January. The location of the data had not been changed and band 8 had not been corrected as was agreed to in October, 1974. The 3rd set of reprocessed SL/2 S192 data was received January 28. This set lacks bands 4, 5, 6, & 12 and again band 8 is full of subframe sync drops. (Band 8 was good in the interim data). We will use this set of data though to compare the interim data and the filtered data from a machine processing point of view to fulfill our contract requirements. The comparison will not be as complete as hoped because of the lack of the data we asked for.

The SL/4 S190A Color IR frame over northern Indiana is being separated and digitized at Mead Technology Labs.

The paper approved last July, "A Multilevel, Multispectral Data Set Analysis in the Visible and Infrared Wavelength Regions" by L. L. Biehl and L. F. Silva was published in the January, 1975 issue of the Proceedings of the IEEE. A copy is enclosed.

(B) Scientific Recommendations

It is being recommended (as per the phone conversations on February 19) that the data to calibrate the thermal band - X5 detector array for temperature be made available.

(C) Expected Accomplishments

The analysis will continue with the SL/4 S192 data set after two of the eight bands have been registered (see below). Also, analysis will begin on the filtered vs nonfiltered data.

(D) Significant Results

The analysis of the SL/4 S192 data over Ft. Wayne, Indiana, taken on January 25, 1974 indicates that the thermal resolution of the thermal band in the X-5 detector array is of sufficient quality to distinguish factories, school houses, commercial buildings, and groups of residential houses from the cooler background surroundings. It is speculated that the higher thermal energy being radiated from these man made buildings is due to a combination of the heat loss

of the buildings and to the high solar absorbtion by the black tar roofs.

The analysis has been slowed because it was discovered that bands 8 & 13 were not registered with the rest of the data. The bands are off by one pixel. Our contract monitor has been notified of this misregistration.

(E) Travel Summary and Plans

No travel was made during the subject reporting period. Travel plans for the future includes a trip to Houston in June for the Earth Resources Conference and possibly a trip to Ft. Wayne to obtain some ground truth in connection with the study there.

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